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A⁵ Sub B1

Claim 13 (amended). The breakwater system of claim 12 wherein a portion of said curtain is attached to each bottom frame section and another portion is attached to each top frame section.

A⁵ Sub B1

Claim 15 (amended). The breakwater system claim 14 wherein said curtain is attached entirely to each top frame section.

REMARKS

This application has been carefully reviewed in light of the Office Action dated August 28, 2002. By way of this amendment, claim 5 has been canceled, and claims 1, 2, 6, 11, 13, and 15 have been amended. Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached paper is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE." Claims 1-4 and 6-23 are currently pending in the application. Applicant hereby requests further examination and reconsideration in view of the following remarks.

Claims 13 and 15 have been rejected under 35 U.S.C. §112, second paragraph. Specifically, the Examiner has stated that there is insufficient antecedent basis for the term "said screen". By way of this amendment, claims 13 and 15 have been rewritten to substitute - - curtain - - for "screen" in each instance. Applicant submits that the proper antecedent basis for this term is provided in claim 11, from which claims 13 and 15 depend. Accordingly it is requested that the rejection be withdrawn.

Claims 1, 9, and 10 have been rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 877,201 (Kellner). This rejection is respectfully traversed in light of the present amendment.

Amended independent claim 1 recites a breakwater system for use in a body of water, said breakwater system comprising: a curtain; support structure

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adapted to be disposed under said body of water; a first attachment sleeve attached to one end of said curtain, said first attachment sleeve being slidably mounted on a first part of said support structure, and a second attachment sleeve attached to an opposite end of said curtain, said second attachment sleeve being slidably mounted on a second part of said support structure.

Kellner is directed to a current deflector and discloses (see Figures 3 and 4) a web 8 formed by wire mesh panels 4 attached to spreader members 6. The entire web 8 is suspended by buoys 11 and secured to a post 10 by a cable 9. The web 8 may be sustained in a vertical position by weights 12 attached to its lower edge and restrained laterally by cables 15 attached to anchors 13.

Kenner clearly fails to show a curtain which is slidably mounted to a support structure by first and second alignment sleeves as recited by amended independent claim 1. To the contrary, Kellner discloses that the wire mesh 4 is attached to the spreaders 6 by fasteners which hold it in fixed position to the spreaders (for example, rings or clasps discussed at page 1, lines 57-59 or staples discussed at page 1, line 110 through page 2, line 2). Accordingly, it is submitted that Kellner fails to disclose every element of amended claim 1 and the rejection should be withdrawn.

Claims 9 and 10 depend from independent claim 1 and are thus believed to be allowable for the reasons set forth above.

Claims 11, 12, 22, and 23 have been rejected under 35 U.S.C. §102(b) as being anticipated by GB 2,204,080 A (Waters). This rejection is respectfully traversed in light of the present amendment.

Waters is directed to an apparatus for retarding tidal flow and teaches (see Figure 1) a plastic net curtain 5 stretched between a horizontal spreader bar 4 at its lower edge and a series of diamond-shaped frames 6 at its upper edge. the spreader bar 4 is attached to barbed fixings (anchors) 1 by anchor lines 3, and the frames 6 are attached to a pair of cylindrical floats 7.

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Amended independent claim 11 recites that the curtain is disposed at least partially within the vertical extent of the support members. This relationship of the curtain to the rigid support members is clearly illustrated in Figures 1, 2, 7, and 10. In contrast, the curtain 5 of Waters, while it might be considered "between" the lateral positions of the barbed fixings 1, is clearly disposed above them vertically; no portion of it is disposed within their vertical extent as recited in the amended claim.

Amended claim 11 also recites that the support members are constructed of generally rigid elements, for example the first and intermediate frame sections described at page 6, lines 8-14, and page 7, lines 19-30 of the present specification. In contrast, the items referred to as "top frame sections" (item 3) in Waters are clearly ropes, cables, or other flexible members and not generally rigid elements.

Accordingly, it is submitted that Waters fails to disclose every element of claim 11 as amended and the rejection should be withdrawn.

Claims 12, 22, and 23 depend from independent claim 1 and are thus believed to be allowable for the reasons set forth above.

Claims 2, 3, and 5-7 have been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 877,201 (Kellner) in view of U.S. Patent 5,758,868 (Shea). This rejection is respectfully traversed in light of the present amendment.

By way of this amendment, claims 2 and 3 have been rewritten to depend from amended claim 11. Accordingly, claims 6 and 7 now depend from claim 11. Claim 5 has been canceled.

Shea is directed to a silt fence and teaches (see Figures 1 and 2) a post unit including a central tube 12 connected to outer tubes 13. The outer tubes 13 have slits 13a which receive a rigid rod 14 that is surrounded by the edge of a fencing material 11.

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The Examiner has stated that it would have been obvious to one of ordinary skill in the art to combine Kellner's breakwater invention with the top section and attachment sleeve teachings of Shea because Shea's and Kellner's inventions serve common purposes.

However, even if the teachings of Kellner were to be combined as suggested, they fail to teach all of the elements of amended claim 11, from which claims 2, 3, and 7 now depend. For example, neither reference teaches first and second support members constructed of generally rigid elements adapted to be positioned on a floor of a body of water. Kellner's web 8 floats at water level, while the silt fence of Shea is disposed on dry land. Regarding Shea, although the disclosed silt fence is mounted on a surface, it does not teach that first and second support members allow a curtain to freely rise or fall in response to a wave in a body of water. The Examiner has stated that Shea discloses first and second attachment sleeves wherein the attachment sleeves are slidingly mounted on parts 16 of the fence system. Applicant submits that even if relative motion between the rebar 16 and post unit is permitted for installation purposes, the installed silt fence is not able to rise or fall as recited by the present claims. Shea specifically states that the purpose of the silt fence is to prevent the erosion of soil or run-off of silt into bodies of water. It would be contrary to the purpose of Shea to allow the fencing material 11 to rise in response to a wave because it would not restrain the silt or soil run-off if it were raised clear from the surface.

Claims 6 and 7 recite a specific structure of the attachment sleeves wherein each attachment sleeve comprises a pair of brackets. The present invention discloses attachment sleeves (see items 278 & 280 in Figure 10 of the present specification) comprising a pair of brackets 297 having indented sections, which can be placed around an existing support member 226 and secured together with fasteners, thereby sandwiching the support member. In

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contrast, Shea teaches an integral central tube 12 connected to outer tubes 13. There is no disclosure or suggestion that the post units of Shea are or could be constructed from a pair of brackets, and the post unit of Shea clearly cannot perform the function of the claimed brackets. For example, it would be impossible to install the post units of Shea over the support members depicted in Figure 10 because the dock 208 would interfere with the placement of the post unit over the support member.

Accordingly, it is submitted that Kellner in view of Shea fails to teach every element of claims 2-5 or 7 and the rejection should be withdrawn.

Claim 4 has been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 877,201 (Kellner) in view of U.S. Patent 5,758,868 (Shea), and further in view of U.S. Patent 4,921,373 (Coffey). This rejection is respectfully traversed in light of the present amendment.

By way of this amendment, claim 4 has been rewritten to depend from amended claim 11. The Examiner has stated that it would have been obvious to one of ordinary skill in the art to take the inventions of Kellner and Shea and to add the use of Velcro® to fasten materials together, as taught by Coffey. However, even if Coffey does generally teach the use of hook-and-loop fasteners to fasten materials together, Coffey does not cure the failure of Kellner in view of Shea to teach all of the elements of amended claim 11, from which claim 4 now depends, as discussed above with respect to the rejection of claims 2-5 and 7. Accordingly, it is submitted that Kellner in view of Shea and further in view of Coffey fails to teach every element of amended claim 4 and the rejection should be withdrawn.

Claim 8 has been rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 877,201 (Kellner) in view of U.S. Patent 4,836,709 (Ploeg et al.) As discussed above, Kellner fails to disclose every element of amended independent claim 1, from which claim 8 depends.

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Accordingly, even if it were obvious to combine the teachings of Ploeg with those of Kellner, Applicant submits that the combination fails to teach every element of claim 8 and the rejection should be withdrawn.

Claim 13 has been rejected under 35 U.S.C. §103(a) as being unpatentable over GB 2,204,080 A (Waters) in view of U.S. Patent 4,738,563 (Clark). This rejection is respectfully traversed in light of the present amendment.

Clark is directed to a buoyant marine fence and teaches (see Figure 1) a flexible net 3 attached to vertical poles 2. Floats 7 are attached to the poles 3 below the low water line. A ballast weight (5a, 5b) is attached to the bottom of each pole 2. The poles 2 are interconnected by chains 9 and optionally, cables 10.

The Examiner has stated that it would have been obvious to one of ordinary skill in the art to combine Waters' breakwater structure with the attachment teachings of Clark. Applicant respectfully disagrees. As discussed above, Waters does not disclose that the curtain is disclosed between the support members and within their vertical extent, as recited in claim 11. Waters also discloses that the curtain must have a net positive buoyancy when installed in the sea (see page 6, lines 30-33). Clark, on the other hand, is a stationary fence and the buoyancy is of no relevance (other than the uprighting torques caused by the floats 7).

Furthermore, and more importantly, the combination of the attachments of Clark with the breakwater of Waters, as suggested, would result in a structure that could not freely rise or fall in response to a wave, as claimed. The net 3 is clearly restrained from upwards movement by virtue of its attachment to the chain 9, and would likewise be prevented from falling by virtue of its attachment to the poles 2 and the fact that it extends all the way to the ground 6 in its installed position.

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Accordingly, it is submitted that Waters in view of Clark fails to teach every element of claim 13 and the rejection should be withdrawn.

Claims 14 and 15 have been rejected under 35 U.S.C. §103(a) as being unpatentable over GB 2,204,080 A (Waters) in view of U.S. Patent 5,875,597 (Gingrich et al.) This rejection is respectfully traversed in light of the present amendment.

Gingrich is directed to an adjustable space-dividing screen and teaches (Figure 1) a flexible screen 12 supported by posts or poles 11. Each of the poles 11 has an inner tube 16 supported on a base 14 and an outer tube 17 to which the screen 12 is connected.

The Examiner has stated that it would have been obvious to one of ordinary skill in the art to combine Waters' breakwater system with Gingrich's teaching of providing longitudinally sliding supports in a curtain system because the sliding feature provides the capability to adjust the height of the curtain assembly as necessary.

Applicant respectfully disagrees. It is submitted that there would be no motivation to combine Gingrich with Waters because they are nonanalogous prior art. One of ordinary skill in marine erosion prevention would not look to furniture or room dividers to solve problems of mounting a breakwater curtain intended for marine use.

Furthermore, even if one were motivated to combine Waters with Gingrich, the combination does not teach all of the elements in claims 14 or 15. As discussed above, Waters fails to teach all of the elements of independent claim 11, from which claims 14 and 15 depend. Also, Gingrich does not teach a curtain that can freely rise and fall in response to a wave. Gingrich teaches that the outer poles 17 are held at the desired height by spring clips 23 and 31 (see Figures 3, 4, and 5). Although these clips allow the outer poles 17 to be raised freely, they must be manually operated to lower the outer poles (see column 3,

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line 36 through column 4, line 54). This would defeat the purpose of a breakwater intended to freely rise or fall in response to a wave.

Accordingly, it is submitted that Waters in view of Gingrich fails to teach every element of claims 14 or 15 and the rejection should be withdrawn.

Claims 16-20 have been rejected under 35 U.S.C. §103(a) as being unpatentable over GB 2,204,080 A (Waters) in view of U.S. Patent 877,201 (Kellner). This rejection is respectfully traversed in light of the present amendment.

As discussed, above, Waters fails to teach all of the elements of amended independent claim 11. Claims 16-20 depend from independent claim 11 and are thus believed to be allowable as well. Furthermore, at least some of these dependent claims set forth limitations not met by the prior art. For instance:

Claim 16 recites that the first and second support members both include a base plate and a frame assembly extending upwardly from the base plate. Kellner does not teach this element. The Examiner has stated that Kellner teaches a base plate 13. However, item 13 of Kellner is clearly not a base plate but rather is a remotely placed anchor which is disposed on the stream bottom 14 and connected to the web 8 by a flexible cable 15. In contrast, the claimed first and second support members are constructed of generally rigid materials, and include a base plate and a frame assembly extending upward therefrom. Neither Waters nor Kellner teach this structure, as both disclose floating structures which are restrained by flexible moorings.

Regarding claims 17 and 18, the Examiner has stated that Kellner teaches weights 12 mounted on the base plate through the frame assembly. However, assuming that item 13 were to be considered a base plate as suggested, item 12 of Kellner is clearly not mounted on the base plate (see Figure 3), but rather is hanging from the bottom edge of the web 8, apparently by some kind of flexible attachment. Furthermore, there would be no reason to

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combine the barbed fixings 1 of Waters with weights because they are already firmly fixed into the seabed 2.

Claim 21 has been rejected under 35 U.S.C. §103(a) as being unpatentable over GB 2,204,080 A (Waters) in view of U.S. Patent 4,836,709 (Ploeg et al.) As discussed above, Kellner fails to disclose every element of amended independent claim 11, from which claim 21 depends. Accordingly, even if it were obvious to combine the teachings of Ploeg with those of Waters, Applicant submits that the combination fails to teach every element of claim 21 and the rejection should be withdrawn.

In view of the above, it is submitted that the claims are in condition for allowance. Reconsideration of the objections and rejections is requested. Allowance of claims 1-4 and 6-23 at an early date is solicited.

Respectfully submitted,

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Date

Jonathan M. Hines
Jonathan M. Hines, Reg. No. 44,764
Tel: 207-791-1236 / Fax: 207-791-1350

Official

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VERSION WITH MARKINGS TO SHOW CHANGES MADEIN THE CLAIMS:

Claims 1, 2, 6, 11, 13, and 15 have been amended as follows:

Claim 1 (amended). A breakwater system for use in a body of water, said breakwater system comprising:

a curtain;

support structure adapted to be disposed under said body of water;

a first attachment sleeve attached to one end of said curtain, said first attachment sleeve being slidably mounted on a first part of said support structure, and

a second attachment sleeve attached to an opposite end of said curtain, said second attachment sleeve being slidably mounted on a second part of said support structure

[means for attaching said curtain to underwater structure in said body of water].

Claim 2 (amended). The breakwater system of claim 11 [1] wherein said curtain has two opposing ends and [said means for attaching] said curtain includes a looped section formed in said curtain at each one of said opposing ends for attaching said curtain to said support structure.

Claim 6 (amended). The breakwater system of claim 1 [5] wherein each attachment sleeve comprises a pair of brackets, each bracket having a central indented section and first and second flanges formed on respective sides of said central indented section.

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11. A breakwater system for use in a body of water having a floor, said breakwater system comprising:

first and second support members constructed of generally rigid elements adapted to be positioned on said floor of said body of water; and

a curtain attached between said first and second support members, said curtain being disposed at least partially within the vertical extent of said support members, wherein said first and second support members allow said curtain to freely rise or fall in response to a wave in said body of water.

Claim 13 (amended). The breakwater system of claim 12 wherein a portion of said curtain [screen] is attached to each bottom frame section and another portion is attached to each top frame section.

Claim 15 (amended). The breakwater system claim 14 wherein said curtain [screen] is attached entirely to each top frame section.